

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>C1002 hF</b>		FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. <b>PCT/EP2004/051016</b>	International filing date (day/month/year) <b>03.06.2004</b>	Priority date (day/month/year) <b>25.06.2003</b>																									
International Patent Classification (IPC) or national classification and IPC																											
Applicant <b>CB CHEMIE UND BIOTECHNOLOGIE GMBH</b>																											
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>10</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																									
Name and mailing address of the IPEA/EP		Authorized officer																									
Facsimile No.		Telephone No.																									

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/051016

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-10 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/1 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	2-6, 10	YES
	Claims	1, 7-9	NO
Inventive step (IS)	Claims	5, 6	YES
	Claims	1-4, 7-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

D1: WO-A-9216314

D2: EP-A-0309432

2. Irrespective of the lack of clarity mentioned below (see Box VIII), the subject matter of claims 1 and 7-9 lacks novelty (PCT Article 33(2)) and therefore the requirements of PCT Article 33(1) are not satisfied. The reasons are as follows:

2.1 Document D1 discloses a device for cleaning metal parts that are dirtied with oil or grease, said device comprising a housing that is equipped with a lid, a basket and a spray nozzle system, the spray nozzle system being directed at the metal parts held in the housing (D1: page 5, lines 21-27 and line 36 - page 6, line 3; figure 1). The housing also has a discharge line and a supply line and the device comprises means for regulating the temperature of a cleaning fluid (D1: page 7, lines 5-25; figure 1; page 8, lines 16-24).

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The subject matter of claim 1 thus lacks novelty (PCT Article 33(2)).

The applicant should also note that the technical teaching in D1 also covers a bioreactor which together with the housing forms a closed system so that cleaning fluid can circulate between the housing and the bioreactor (D1: page 9, lines 1-19; page 7, lines 5-25).

- 2.2 Dependent claims 7-9 do not appear to contain any additional features which, in combination with the features of any claim to which claims 7-9 refer back, meet the PCT requirements for novelty. The reasons are as follows:

The feature from claim 7 already belongs to the technical teaching of D1 (D1: page 9, lines 1-4). D1 also discloses a container 14 ("washing liquid container"), which acts as a bioreactor (D1: page 9, lines 1-19) and in the lower, conical part ("lower portion") of which slurry is deposited, whilst the upper part thereof is cylindrical in shape and contains one end of the supply line 15 (D1: page 9, lines 22-34; figure 1 ). The bioreactor (container 14) therefore includes an upper chamber for accommodating conditioned cleaning fluid and a supply line to the spray nozzle system, as defined in claims 8 and 9.

3. Dependent claims 2-4 do not appear to contain any

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additional features which, in combination with the features of any claim to which claims 2-4 refer back, meet the PCT requirements for inventive step. The reasons are as follows:

Irrespective of the fact that the temperature ranges indicated in claims 2 and 3 are understood to be merely optional (see under point 2. above), those temperature ranges, if considered to be firm features of the claimed subject matter, would not be considered inventive. The feature from claim 2 can be found in document D3, which describes a similar device and discloses a temperature of 35-40°C for maintaining the population of bacteria (D3: page 10, lines 36-38). In addition, D3 indicates a temperature of more than 50-60°C for the degreasing process (D3: page 3, lines 30-33). It would therefore have been obvious for a person skilled in the art to combine these features that are disclosed in D3 with the technical teaching of D1 and to thereby arrive at the method, i.e. at the presumable (see problems relating to clarity in Box VIII) subject matter, of claims 2 and 3.

Since D3 provides explicit temperature information relating to the degreasing and biological decomposition, the degreasing temperature generally lying above that for the biological decomposition (D3: page 3, lines 24-33), it is obvious, in view of the teaching of D3, that the cleaning fluid of a higher temperature coming from the degreasing device as per D1 should be cooled

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	<p>prior to entry into the bioreactor. To effect such cooling using a heat exchanger, as defined in claim 4, appears to be a common measure in the art, of the kind that a person skilled in the art routinely implements on the basis of familiar considerations. This appears to be all the more obvious since the resulting advantages, for example possible heat recovery in a fluid circulating between two temperature levels, are readily foreseeable. Consequently, the subject matter of claim 4 would also appear not to involve an inventive step.</p> <p>4. Irrespective of the lack of clarity mentioned below (see Box VIII), the subject matter of claim 10 does not involve an inventive step (PCT Article 33(3)) and therefore the requirements of PCT Article 33(1) are not satisfied. The reasons are as follows:</p> <p>Document D1 already describes a control arrangement which controls the pump 11 and the valve 18 (D1: page 10, lines 17-23). The extension of this type of control device, as per claim 10, to other elements such as the pump for the air supply appears to be an obvious measure within the scope of normal technical practice and in relation to which, moreover, no special technical effect is described in the application.</p> <p>5. In view of the available prior art, claim 5 appears to contain a feature which would be novel</p>

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

and would involve an inventive step if the problem relating to clarity mentioned in Box VIII, point 2. ("preferably") were remedied. Therefore, claim 6, which is dependent on claim 5, would also be novel and inventive.

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## Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The application does not meet the requirements of PCT Article 6 because claims 1-5, 7 and 10 are unclear for the following reasons:

1. It would appear from the third and last paragraphs on page 2 of the description that the combination of the housing encompassing the spray nozzle system with a bioreactor is essential to the definition of the invention, since that is the only way in which a closed system is produced. Claim 1, however, contains only the housing, etc. without the bioreactor, although co-operation with the bioreactor is mentioned. The wording in the second paragraph on page 3 supports the opinion that claim 1 with the term "device" does not claim the essential bioreactor: whilst the bioreactor according to the description is operated at between 35 and 40°C, the cleaning fluid in the "device" has an even higher temperature of 50 to 80°C, i.e. the description also distinguishes between the "device" and the "bioreactor" as separate units.

Since, therefore, independent claim 1 does not contain the essential feature of the bioreactor, it does not meet the requirement of PCT Article 6 in conjunction with PCT Rule 6.3(b) (i) and (ii) that each independent claim must include all the technical features essential to the definition of



Box No. VIII

Certain observations on the international application

the invention.

Equally, independent claim 10 also fails to contain the essential feature of the bioreactor and moreover does not contain all of the other essential features which are needed to clean machine parts, such as the spray nozzle system. Claim 10 therefore also fails to meet the requirements of PCT Article 6.

2. The applicant should note that phrases which are introduced by wording such as "in particular" or "preferably" do not restrict a claim and that the features covered by such phrases are understood to be merely optional.

Consequently, dependent claims 2, 3 and 5 do not contain any technical features which would further restrict the subject matter of independent claim 1.

3. As detailed below, some of the features in device claims 1, 2, 4 and 7 refer to a method for using the device and not to the definition of the device in terms of its technical features. Therefore, contrary to PCT Article 6, the intended limitations are not clear from the claims. The features in question are:

in claim 1, the device, which "co-operates" with a bioreactor, and the cleaning fluid, which "circulates";

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Box No. VIII      Certain observations on the international application

in claim 2, the bioreactor, which "operates";  
in claim 4, the cleaning fluid, which "streams"  
and "flows", and the heat exchanger, which "cools"  
the cleaning fluid; and  
in claim 7, air, which "flows in".